Work Order ID 97113
February-14-13 2:27:52 PM

97113

Item ID: D2054 Accept *N900040100* Setup Start Revision ID: Item Name: Bushing *12* **Start Qty: 12.00** Start Date: 2/14/13 Cust Item ID: Req'd Qty: 12.00 Required Date: 2/22/13 *12* **Customer:** Reference: Run Process Plan: Date: 13-02-19 Tooling: Date: Approvals: Stop Date: **SPC (Y/N):** Date: Sequence ID/ Operation Tool ID Tool # Plan Reject Set Up/ Accept Reject Insp. **Work Center ID** Description Qty Qty **Run Hours** Code Number Stamp **Revision Nbr** Draw Nbr D2054 Rev B 100 0.00 A1303-21 13 8 Hardinge CNC LATHE SMALL *100* Hardinge 0.00 Memo Hardinge CNC Lathe Small Machine as per folio FA Deburr 110 OC2- Inspect parts off machine FAI/FAIB 0.00 *110* \$13-03-21 QC 0.00 Memo Quality Control 120 QC8- Inspect parts - second check 0.00 St 13-3-2, 13 p *120* QC 0.00 Memo Quality Control

NCR: \	Yes	/ No				WORK ORDER NON-	COI	NFORM	MANCE / UPE	DATE	QA Closed:	Date:	
Mark Ords		-				DISPOSITION			· · · · · · · · · · · · · · · · · · ·	AGAINST DE	PARTMENT	PROCESS	
Work Order: Part No. NCR No.			Rework Scrap Use-as-is Work Order Update	Skid-tube Crosstube Machining Small Fab Thermoforming Finishing Large Fab Composite			Pro	Water Jet d. Eng. Coor. re/Packaging Supplier	Engineering Quality Other				
Root		_	_	_		otion of work order update	1	Initial	Act		Sign &	\/:\f: +:	OC Image at an
Cause Doc/Data	_	Date	Step	Qty	(or Non-conformance	1 Cr	nief Eng	Descr	iption	Date	Verification	QC Inspector
Equip/Tooling Operator Material Setup Other Process Supplier Training Unapproved							EALI	LT CATE	GORY				
Landii	na Ga				-	General	AUI	LICATE	GONT				
Lailui		Bending Centre No Cracks Crushed/C Cuffs Heat Trea Ripples in Torque W	Crimped. t n Strip in Bend	Tube		Bend BOM/Route Broken/Damaged Burrs Contamination Countersink Cut Too Short Drill Holes Drawing		Instruct Mainte Mislabe Misread Offset	ion Incomplete ions Incomplete/L enance eled	Jnclear	Ovalized Over/Under Part Incorred Part Lost/Mi Part Moved Positioned V Power Loss/	ct sissing Vrong	Pressure/Forced Temperature/Cure Weld Wrong Stock Pulled Other

Out of Sequence

Outside Dimensions

DQA:

Date:

Turning Sequence

Wave/Twist in Tube

Finish

Folio

H:/FORMS/Quality Assurance\approved QA/NCRWO Rev G

February-14-13 2:27:52 PM

Item ID: D2054 Accept *N900040100* Setup Start **Revision ID:** Item Name: Bushing *12* **Start Qty: 12.00** 2/14/13 Start Date: **Cust Item ID:** Required Date: 2/22/13 Req'd Qty: 12.00 **Customer:** Reference: Run Process Plan: Date: **Tooling:** Approvals: QC: Date: SPC (Y/N): Date: Sequence ID/ Operation Tool ID Set Up/ Tool # Plan Reject Reject Accept Insp. Description Work Center ID Qty Qty Number Stamp **Run Hours** Code Identify as per dwg & Stock Location 0.00 130 : *130* Packaging 0.00 Memo Packaging 140 QC21- Final Inspection - Work Order Release 0.00 *140* QC 0.00 Memo Quality Control

NCR:	Yes	/ No				WORK ORDER NON-	COI	NFORN	MANCE / UPI	DATE					
												QA Closed:	D	ate:	
Work Orde	er: _					DISPOSITION	7			-	DEI	PARTMENT		. —	
Part N NCR N						Rework Scrap Use-as-is Work Order Update		Therm	Skid-tube Machining noforming Large Fab	Crosstube Small Fab Finishing Composite			Water Je d. Eng. Coo re/Packagin Supplie	g	Engineering Quality Other
	_									,				L	
Root Cause		Date	Step	Qty		ption of work order update or Non-conformance	1	Initial nief Eng		ion ription		Sign & Date	Verificati	on	QC Inspector
Doc/Data Equip/Tooling Operator Material Setup Other Process Supplier Training Unapproved															
							FAUI	LT CATE	GORY						
Landi	B C C C C C C C C C C C C C C C C C C C	ending centre No cracks crushed/cuffs deat Treatspection in the contract of th	n Strip in	Tube .		General Bend BOM/Route Broken/Damaged Burrs Contamination Countersink Cut Too Short Drill Holes Drawing		Instruct Mainte Mislabe Misread Offset	ion Incomplete ions Incomplete/l enance eled	Unclear		Ovalized Over/Under Part Incorre Part Lost/M Part Moved Positioned N	ct issing Wrong		Pressure/Forced Temperature/Cure Weld Wrong Stock Pulled Other

Out of Sequence

Outside Dimensions

DQA:_

Date:

Turning Sequence

Wave/Twist in Tube

Finish Folio

H:/FORMS/Quality Assurance\approved QA/NCRWO Rev G

Picklist Print

February-14-13 10:50:21 AM

Work Order ID:

97113

Parent Item:

D2054

Parent Item Name:

Bushing

Start Date: 2/14/13

Required Date: 2/22/13

Start Qty: 12.00

Required Qty: 12.00

Comments:

IPP A1 03.01.21 Revise Dwg Rev B; added Black Teflon or Delring: Made on Cobra RF

Component Item ID/ Item Name	Replacement Item ID	Mfg/ Purch	Bin Item	Primary Location	Last Location	Route Seq ID	Unit of Measure	Qty on Hand	Qty per Kit	Total Qty	Qty Issued	Date Issued	Status
MDELRINRI.000 > Delrin Round Bar I"		Purchased	No			120	f	20.3664	0.0583	7 ^{0.7364208}	Sj	13-0	3-21
•				Location		Loc Qty	<u>Lo</u>	c Code					
				MAT018		20.3664							
!				117	985	0.814				<u>.</u>			
1				118	392	12.5524							
· · · · · · · · · · · · · · · · · · ·				122	582	7							
V				124	1942				.75	-8 '			

NCR: Y	/es	/ No				WORK ORDER NON-O	CON	NFORM	MANCE / UP[DATE			
		•									QA Closed:	Date:	-
Work Order:				DISPOSITION		AGAINST DEPARTMENT/PROCESS							
Part N	•				· · · · · · · · · · · · · · · · · · ·	Rework Scrap	Skid-tube Crosstube Machining Small Fab			4	Water Jet d. Eng. Coor.	Engineering Quality	
NCR N	No.		 			Use-as-is Work Order Update		Thern	noforming Large Fab	Finishing Composite	Rec/Stor	re/Packaging Supplier	Other
Root					Descri	ption of work order update	1	Initial	Act		Sign &		
Cause		Date	Step	Qty		or Non-conformance	Ch	ief Eng	Descr	iption	Date	Verification	QC Inspector
Doc/Data							Ì						
Equip/Tooling	Ш		1										
Operator		l											
Material					i				<u> </u>				
Setup							1						
Other											;		
Process	_		i .										
Supplier				1 1									
Training	Щ						1						
Unapproved			<u> </u>	لــــا			<u> </u>						
				-			AUI	T CATE	GORY				
Landi	ng (1				General	_	1			۱	r	Pressure/Forced
		Bending				Bend	\vdash	Grain			Ovalized	+-l	Temperature/Cure
	<u> </u>	Centre No	ot Conce	ntric to (^{O/S} -	BOM/Route	\vdash	Hardwa		 	Over/Under		Weld
	<u> </u>	Cracks				Broken/Damaged	\vdash	-4 `	ion Incomplete	(l	- ∤	<u> </u>	Wrong Stock Pulled
	<u> </u>	Crushed/	Crimped		<u> </u>	Burrs	-	4	tions Incomplete/U	Inclear	Part Lost/Mi	122111B	
	_	Cuffs			<u> </u>	Contamination	-	4	enance		Positioned V	Mrong	
	\vdash	Heat Trea		- 1	<u> </u>	Countersink	-	Mislabe		 	Power Loss/		Other
	_	Inspectio		lube	-	Cut Too Short	\vdash	Misrea Offset	u	L.	TLOME! FO22	Juige	Totales
	\vdash	Ripples ir		F	_	Drill Holes	\vdash	4	Calibration				
	\vdash	Torque V			n -	Drawing	<u> </u>	4					
1	1	Turning S	equence	!	l	Finish	L	Jout of	Sequence				

Outside Dimensions

DQA:

Date: ___

Wave/Twist in Tube

Folio

DART AEROSPACE LTD	Work Order:	97110
Description: Bushing	Part Number:	D2054
Inspection Dwg: D2054 Rev: B		Page 1 of 1

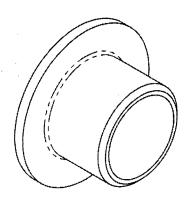
FIRST ARTICLE INSPECTION CHECKLIST

FIRST ARTICLE INSPECTION CHECKLIST									
	X	First Artic	le	Proto	otype				
Drawing Dimension	Tolerance	Actual Dimension	Accept	Reject	Method of Inspection	Coi	nments		
Ø1.00	+/-0.030	1.000		-	SL08	Ven	1		
0.063	+/-0.010	.0635	/		(
0.500	+/-0.010	، 501	/						
0.03 x 45°	+/-0.030	630 X45°	1						
R0.016	+/-0.010	,015	/						
Ø0.625	+0.005/-0.000	.615					·		
Ø0.510	+0.005/-0.000	.512			V				
Measured by:	<i>Sf</i> 13-03-21	Audited by:	57))/	Prototype A	pproval: Date:	N/A N/A		
Rev Date	Change		· · · · · · · · · · · · · · · · · · ·		F	Revised by	Approv#d		
A 04.06.10	New Issue					J/JLM 📣			



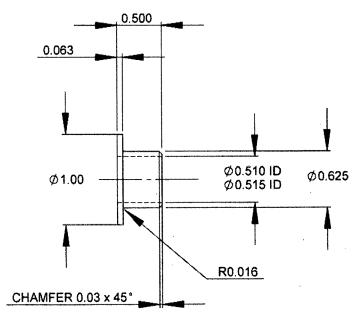
DESIGN	JВ	DRAWN BY	DART AEROSPACE LTD						
	JD	u ·	HAWKESBURY, ON	ITARIO, CANADA					
CHECKE	ED _M	APPROVED	DRAWING NO.	REV. B					
•	#	J 41	D2054	SHEET 1 OF 1					
DATE			TITLE	SCALE					
	01.	12.20	BUSHING	1:1					
	9	2.05.13	NEW ISSUE						
Α	0	1.06.05	CHANGE TOL. ON ID.						
В	0	1.12.20	REDRAW; ADD DELRIN	OPTION: ADD NOTES					





9113 NB-0219

ISOMETRIC DETAIL (SCALE 2:1)



D2054 BUSHING

MATERIAL: BLACK TEFLON

or BLACK UHMW

or BLACK DELRIN

TOLERANCES ARE PER DART QSI 018 UNLESS OTHERWISE NOTED ALL DIMENSIONS ARE IN INCHES

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